

- 1 1. A method comprising:
2 receiving a code address; and
3 querying method metadata for said code address by limiting the search
4 scope within a local memory sub-region of said code address.

- 1 2. The method of claim 1, further comprising:
2 partitioning a global method lookup table into smaller and distributed
3 versions for said local memory sub-region.

- 1 3. The method of claim 2, further comprising:
2 maintaining a limited set of methods for which codes are allocated within
3 said local memory sub-region for said smaller and distributed version of the global
4 method lookup table.

- 1 4. The method of claim 1, further comprising:
2 providing a continuous space to a memory block to locate method
3 metadata; and
4 placing block information regarding said memory block at the beginning
5 of the continuous space.

- 1 5. The method of claim 4, further comprising:
2 providing a pointer to a distributed method lookup table from said block
3 information.

- 1 6. The method of claim 5, wherein table entries of said distributed method
2 lookup table represent code objects created in said memory block.

1 7. The method of claim 5, further comprising:
2 providing a virtual machine; and
3 providing a garbage collector for said virtual machine to maintain said
4 distributed method lookup table.

1 8. The method of claim 1, further comprising:
2 maintaining allocation bits with each of the bits mapped to a legal object
3 address in heap space; and
4 using said allocation bits to identify a code object that encloses an
5 arbitrary code address.

1 9. The method of claim 8, further comprising:
2 partitioning the allocation bits into subsets for individual memory blocks.

1 10. The method of claim 9, further comprising:
2 receiving an instruction pointer pointing into some internal address of the
3 code; and
4 locating said code object based on said instruction pointer.

1 11. A system comprising:
2 a non-volatile storage storing instructions; and
3 a processor to execute at least some of the instructions to provide a virtual
4 machine to receive a code address and query method metadata for said code address by
5 limiting the search scope within a local memory sub-region of said code address.

1 12. The system of claim 11, wherein said virtual machine to partition a global
2 method lookup table into smaller and distributed versions for said local memory sub-
3 region.

1 13. The system of claim 12, wherein said virtual machine to maintain a
2 limited set of methods for which codes are allocated within said local memory sub-region
3 for each said smaller and distributed version of the global method lookup table.

1 14. The system of claim 11, further comprising:
2 a memory block with a continuous space with size of 2^M to locate method
3 metadata and place information regarding said memory block at the beginning of the
4 continuous space.

1 15. The system of claim 14, further comprising:
2 a pointer to a distributed lookup table from said block information.

1 16. The system of claim 15, wherein table entries of said distributed method
2 lookup table represent code objects created in said memory block.

1 17. The system of claim 15, further comprising:
2 a garbage collector for said virtual machine to maintain said distributed
3 method lookup table.

1 18. The system of claim 11, wherein said virtual machine to maintain
2 allocation bits with each of the bits mapped to a legal object address in heap space and
3 use said allocation bits to identify a code object that encloses an arbitrary code address.

1 19. The system of claim 18, wherein said virtual machine to partition the
2 allocation bits into subsets for individual memory blocks.

1 20. The system of claim 19, wherein said virtual machine to receive an
2 instruction pointer pointing into some internal address of the code and locate said code
3 object based on said instruction pointer.

1 21. An article comprising a computer readable storage medium storing
2 instructions that, when executed cause a processor-based system to:
3 receive a code address; and
4 query method metadata for said code address by limiting the search scope
5 within a local memory sub-region of said code address.

1 22. The article of claim 21, comprising a medium storing instructions that,
2 when executed cause a processor-based system to:
3 partition a global method lookup table into smaller and distributed
4 versions for said local memory sub-region.

1 23. The article of claim 22, comprising a medium storing instructions that,
2 when executed cause a processor-based system to:
3 maintain a limited set of methods for which codes are allocated within said
4 local memory sub-region for said smaller and distributed version of the global method
5 lookup table.

1 24. The article of claim 21, comprising a medium storing instructions that,
2 when executed cause a processor-based system to:
3 provide a continuous space to a memory block to locate method metadata
4 placing block information regarding said memory block at the beginning of the
5 continuous space.

1 25. The article of claim 24, comprising a medium storing instructions that,
2 when executed cause a processor-based system to:
3 provide a pointer to a distributed method lookup table from said block
4 information.

1 26. The article of claim 25, comprising a medium storing instructions that,
2 when executed cause a processor-based system to:
3 represent code objects created in said memory block as table entries of
4 said distributed method lookup table.

1 27. The article of claim 25, comprising a medium storing instructions that,
2 when executed cause a processor-based system to:
3 provide a virtual machine; and
4 provide a garbage collector for said virtual machine to maintain said
5 distributed method lookup table.

1 28. The article of claim 21, comprising a medium storing instructions that,
2 when executed cause a processor-based system to:
3 maintain allocation bits with each of the bits mapped to a legal object
4 address in heap space; and

5 use said allocation bits to identify a code object that encloses an arbitrary
6 code address.

- 1 30. The article of claim 29, comprising a medium storing instructions that,
2 when executed cause a processor-based system to:
3 receive an instruction pointer pointing into some internal address of the
4 code; and
5 locate said code object based on said instruction pointer.